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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,382	01/30/2002	Kenichi Higuchi	218934US2	5885
22850 7590 03/01/2007 OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER TRAN, THIEN D	
			ART UNIT 2616	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE 3 MONTHS		NOTIFICATION DATE 03/01/2007	DELIVERY MODE ELECTRONIC	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 03/01/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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## Office Action Summary

Application No.

10/058,382

Applicant(s)

HIGUCHI ET AL.

Examiner

Thien D. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-21 is/are allowed.
- 6) ☒ Claim(s) 1-5, 9, 10 is/are rejected.
- 7) ☒ Claim(s) 6-8, 11 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1- 5, 9, 10 are rejected under 35 U.S.C. 102(e) as being participated by Rouphaet et al (U.S Patent No. 917,642 B1).

Regarding claim 1, Rouphaet discloses a receiving process method of a receiving apparatus used in a mobile communication system in which a sending apparatus sends a plurality of PN codes (code channels as code channel groups to which spreading codes), col.8 lines 5-10, are assigned to a receiving apparatus, and said receiving apparatus receives said code channels, col.7 line 6, said receiving process method comprising the steps of:

when spreading codes used for said code channel groups are orthogonal code sequences, col.7 line 43, generating received spreading signal sequences of said code channel groups according to the number of received paths 160, figure 1; and

removing received spreading signal sequences of a received path of own code channel group of said receiving apparatus which should be removed from received signals, col.1 line 67.

Regarding claim 2, Rouphaet discloses the steps of: when spreading codes of PN codes (other code channels used for control or used for other channels in said code channel group are orthogonal code sequences), col.9 line 28, generating received spreading signal sequences of said code channel groups according to the number of received paths; and removing received spreading signal sequences of received paths of other code channels which should be removed from received signals, col.10 line 62.

Regarding claim 3, Rouphaet discloses the steps of: when all or a part of said spreading codes used for said pilot codes (code channel groups are non-orthogonal code sequences), col.7 line 35, generating received spreading signal sequences of said code channel groups according to the number of received paths; and removing received spreading signal sequences of other code channels which are non-orthogonal in the same received path from received signals, col.7 line 51.

Regarding claim 4, Rouphaet discloses the steps of: when said receiving apparatus receives a code channel group from another sending apparatus which is orthogonal (not connected to said receiving apparatus), generating received spreading signal sequences of said code channel group from another sending apparatus according to the number of received paths; and removing received spreading signal sequences of said code channel group from received signals, col.7 lines 50-54.

Regarding claim 5, Rouphaet discloses that receiving spreading code sequence is generated on the basis of an estimated value of channel variations and an estimated value of data modulation obtained for each code channel, col.11 lines 23-28.

Regarding claim 9, Rouphaet discloses the same estimated value is used as said estimated value of channel variations for code channels sent from the same sending apparatus, col.11 lines 23-28.

Regarding claim 10, Rouphaet discloses the steps of: performing coherent detection by using said estimated value of channel variations for received despread signals of data signals obtained by despreading received signals from which said received spreading signal sequences have been subtracted, col.10 lines 15-20; wherein, when said receiving apparatus receives signals by multichannel antennas (path diversity or by antenna diversity, said receiving apparatus estimates data modulation by performing hard decision for signals on which antenna diversity has been performed), col.7 line 4.

***Allowable Subject Matter***

3. Claims 6-8, 11, 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
4. Claims 13-21 allowed.

***Response to Arguments***

5. Applicant's arguments filed 11/09/2006 have been fully considered but they are not persuasive.

Applicant argues that Rouphael does not disclose a method for generating received spreading signal sequences of the code channel groups according to a number of received paths. However, Examiner respectfully disagrees with the argument because Rouphael discloses a method for despreading signals by PN codes, col.8 line 43, (generating received spreading signal sequences), wherein the signals are spreaded over channels or subchannels, col.7 line7, in an entire channel bandwidth, col.7 lines 35-60 (code channel groups according the number of received paths).

Applicant argues that Rouphael does not disclose a method for removing received spreading signal sequences of a received path of own code channel group of said receiving apparatus with should be removed from received signals. In response to the argument, the limitation is not positive recitation, which does not limit the claim to a particular structure because of "***should be removed from received signals***".

***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

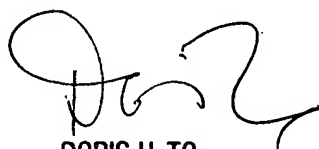
7. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Thien Tran whose telephone number is (571) 272-3156. The examiner can normally be reached on Monday-Friday from 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To, can be reached on (571) 272-7629. Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2600.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197.

Patent Examiner

Thien Tran

  
DORIS H. TO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600